

Notice of Allowability

Application No.

10/615,107

Examiner

Ingrid Wright

Applicant(s)

ICE ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 7/8/2003. (Application)
2. ☒ The allowed claim(s) is/are 1-32.
3. ☒ The drawings filed on 08 July 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 11/24/2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 4/28/2005.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

ANATOLY VORTMAN
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with **Mr. Kevin W. Stinger, Reg. No. 48,959 on 4/28/2005.**

The application has been amended as follows:

In claim 31, line 1 of the claim, following "claim 30," [wherein the body of the heat spreading device defines a raised structure about the hole defined in the body, the raised structure configured to ensure adequate spacing exists between the heat spreading device and a printed circuit board positioned in the shell of the optical transceiver module.] has been replaced with -further comprising a hole defined in the body of the heat spreading device for receiving a screw that is configured to attach the body to the shell of the optical transceiver housing.-

In claim 32, line 1 of the claim, following "claim 31," [further comprising a hole defined in the body of the heat spreading device for receiving a screw that is configured to attach the body to the shell of the optical transceiver housing.] has been replaced with -wherein the body of the heat spreading device defines a raised structure about the hole defined in the body, the raised structure configured to ensure adequate spacing exists between the heat spreading device and a printed circuit board positioned in the shell of the optical transceiver module.-

2. The following is an examiner's statement of reasons for allowance: the allowability resides in the overall structure of the device as recited in independent claims 1, 11, 21, and 24, and at least in part, because claim 1 recites: "a thermally conductive slug received within the cavity of the body, the slug being positioned within the cavity to absorb heat from the heat tongue and transfer it to the body of the heat spreading device," claim 11 recites: "a thermally conductive slug shaped to be received within the cavity of the heat spreader," claim 21 recites: "placing a thermal slug in the cavity of the heat spreader and positioning it such that the thermal slug physically contacts both the heat tongue and the heat spreader," and claim 24 recites: "a thermally conductive slug sized and configured to be received in the cavity , wherein the slug is thermal communication with both the exterior portion of the heat tongue and the body." The aforementioned limitations in combination with all remaining limitations of claims 1, 11, 21 and 24, are believed to render the claims and all claims dependent therefrom patentable over the art of record.

US2005/0045374 A1 to Kumar et al. is considered to be the closest reference to the present invention, disclosed (Fig. 1) flexible circuit boards with tooling cutouts for optoelectronic modules comprising a flexible circuit (108) and a Transmitter Optical Subassembly (TOSA) assembly (102) but did not disclose a cooling arrangement having a thermally conductive slug positioned in the cavity, of the body of the heat

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spreading device, which is required by each of the independent claims 1, 11, 21 and 24 of the instant application.

The Examiner has cited the following pertinent to the present invention references: US/6703561 B1, US 6869230 B2, US 6867377 B2, US 6822875 B2, US 6206582 B1, US 5216730, US 6705769 B2, US 6502999 B1, US 2004/0074661 A1, US 2003/0044121 A1, and JP/2004063861 A disclosed optical transceiver configurations and or components.

US/6756669 B2 disclosed a heat spreader (110).

US/6707140 B1 disclosed a slug (122).

None of the cited references either alone or in combination is believed to render the present invention unpatentable as claimed.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ingrid Wright whose telephone number is (571) 272-8392. The examiner can normally be reached on M-F, 9a.m. - 5p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571) 272-2800, ext 35. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 29, 2005
IDW

A handwritten signature in black ink, appearing to read 'A. Vortman', with a long, sweeping horizontal stroke extending to the right.

ANATOLY VORTMAN
PRIMARY EXAMINER